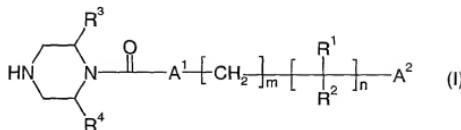


CLAIMS

1. A compound of formula (I):



wherein

R¹ and R² are independently selected from the group consisting of hydrogen, alkyl, cycloalkyl, aryl and aralkyl, or R¹ and R², together with the carbon atom to which they are attached, form an unsubstituted 3- to 8-membered carbocyclic ring or a 3 to 8 membered carbocyclic ring which is substituted with alkyl;

R³ and R⁴ are independently selected from the group consisting of hydrogen, alkyl, cycloalkyl, aryl and aralkyl;

A¹ is oxygen or sulfur, wherein in case A¹ is oxygen and A² is unsubstituted phenyl one of R¹, R², R³ and R⁴ is not hydrogen;

A² is unsubstituted aryl, unsubstituted heteroaryl or unsubstituted cycloalkyl or aryl, heteroaryl or cycloalkyl each substituted with at least one substituent independently selected from the group consisting of halogen, alkyl, cycloalkyl, aryl, aralkyl, alkoxy, aralkoxy, aryloxy, hydroxy, cyano, nitro, amino, alkoxycarbonyl, cycloalkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heteroaryloxycarbonyl, carbamoyl, cycloalkoxy, alkylsulfonyloxy, arylsulfonyloxy, carbamoyloxy, heteroarylalkoxy, alkenyloxy, tetrahydrofurylalkoxy, alkynyloxy and cycloalkylalkoxy, or wherein said alkyl, said cycloalkyl, said aryl, said aralkyl, said alkoxy, said aralkoxy, said aryloxy, said alkoxycarbonyl, said cycloalkoxycarbonyl, said aryloxycarbonyl, said aralkoxycarbonyl, said heteroaryloxycarbonyl, said cycloalkoxy, said alkylsulfonyloxy, said arylsulfonyloxy, said

heteroarylalkoxy, said alkenyloxy, said tetrahydrofuranylalkoxy, said alkynyoxy and said cycloalkylalkoxy are substituted with between one and three substituents independently selected from the group consisting of alkyl, alkoxy, halogen, nitro, oxo, trifluoromethyl, alkoxy substituted with between one and three halogen, thiophenyl, aryl, amino, alkylcarbonyl and aryloxy, or two substituents of aryl, heteroaryl or cycloalkyl form, together with the carbon atoms to which they are attached, an unsubstituted 5- to 7-membered carbocyclic ring or a substituted 5- to 7-membered carbocyclic ring with at least one substituent independently selected from the group consisting of alkyl, alkoxy and halogen;

n is 1 or 2; and

m is zero or 1;

or a pharmaceutically acceptable salt, solvate or ester thereof; provided that 2-methyl-1-piperazinecarboxylic acid (4-nitrophenyl)methyl ester and 1-piperazinecarboxylic acid (4-(trifluoromethyl)phenyl)methyl ester are excluded.

2. A compound of formula I according to claim 1, wherein

A^2 is unsubstituted aryl, unsubstituted heteroaryl, unsubstituted cycloalkyl or aryl, heteroaryl, cycloalkyl each substituted with at least one substituent independently selected from the group consisting of halogen, alkyl, cycloalkyl, aryl, aralkyl, alkoxy, aralkoxy, aryloxy, hydroxy, cyano, nitro, amino, alkoxycarbonyl, cycloalkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heteroaryloxycarbonyl and carbamoyl, or wherein said alkyl, said cycloalkyl, said aryl, said aralkyl, said alkoxy, said aralkoxy, said aryloxy, said alkoxycarbonyl, said cycloalkoxycarbonyl, said aryloxycarbonyl, said aralkoxycarbonyl and said heteroaryloxycarbonyl are substituted with between one and three substituents independently selected from the group consisting of alkyl, alkoxy, halogen and nitro, or two substituents of aryl, heteroaryl or cycloalkyl form together with the carbon atoms to which they are attached an unsubstituted 5- to 7-membered

carbocyclic ring or a 5- to 7-membered ring substituted with alkyl, alkoxy or halogen; and

m is zero.

3. A compound according to claim 1, wherein R³ and R⁴ are independently selected from hydrogen or alkyl.
4. A compound according to claim 3, wherein R³ and R⁴ are hydrogen.
5. A compound according to claim 3, wherein R³ and R⁴ are methyl.
6. A compound according to claim 3, wherein one of R³ and R⁴ is methyl or ethyl and the other of R³ and R⁴ is hydrogen.
7. A compound according to claim 1, wherein A¹ is oxygen.
8. A compound according to claim 1, wherein A¹ is sulfur.
9. A compound according to claim 1, wherein R¹ and R² are independently selected from the group consisting of hydrogen, alkyl and aryl.
10. A compound according to claim 1, wherein A² is unsubstituted phenyl or phenyl substituted with between one and four substituents independently selected from the group consisting of halogen, alkoxy, carbamoyloxy, heteroarylalkoxy, alkenyloxy, alkynyloxy and cycloalkylalkoxy, or
wherein said alkoxy, said heteroarylalkoxy or said alkenyloxy are substituted with between one and three substituents independently selected from alkyl or halogen.
11. A compound according to claim 1, wherein A² is unsubstituted phenyl or phenyl substituted with between one and three substituents independently selected from the group consisting of fluoro, chloro, difluoromethoxy, propoxy, 3,5-dimethyl-isoxazol-4-ylmethoxy, 2-propenylmethoxy, 5-pentyloxy, cyclopropylmethoxy, 2-propynylmethoxy and NH(R')-C(O)-O-, wherein R' is selected from the group consisting of isopropyl, benzyl and tert.-butyl.
12. A compound according to claim 1, wherein n is 1.
13. A compound according to claim 12, wherein m is zero.
14. A compound of formula I wherein the compound is selected from the group consisting of:
S-4-[(2-propylamino)carbonyl]oxybenzyl piperazine-1-thiocarboxylate;
S-4-[(benzylamino)carbonyl]oxybenzyl piperazine-1-thiocarboxylate;

P
A
T
E
N
T
E
R
Y
A
M
E
R
I
C
A
N
U
N
I
O
N

S-4-[(tert-butylamino)carbonyl]oxybenzyl piperazine-1-thiocarboxylate; 2,6-difluoro-4-difluoromethoxybenzyl cis-2,6-dimethylpiperazine-1-carboxylate; (R)-4-difluoromethoxybenzyl 2-ethylpiperazine-1-carboxylate; (R)-2,6-difluoro-4-propoxybenzyl 2-methylpiperazine-1-carboxylate; cis-2,6-dimethyl-piperazine-1-carboxylic acid 4-(3,5-dimethyl-isoxazol-4-ylmethoxy)-2,6-difluoro-benzyl ester; 2-fluoro-5-(2-propenyl)oxybenzyl cis-2,6-dimethylpiperazine-1-carboxylate; (R)-2-fluoro-5-pentyloxybenzyl 2-methylpiperazine-1-carboxylate; 5-(cyclopropylmethyl)oxy-2-fluorobenzyl cis-2,6-dimethylpiperazine-1-carboxylate; (R)-2-ethyl-piperazine-1-carboxylic acid 4-cyclopropylmethoxy-2,6-difluoro-benzyl ester; (R)-2-ethyl-piperazine-1-carboxylic acid 4-allyloxy-2,6-difluoro-benzyl ester; (R)-2-ethyl-piperazine-1-carboxylic acid 2,6-difluoro-4-prop-2-ynylbenzyl ester; (R)-2-ethyl-piperazine-1-carboxylic acid 4-cyclopropylmethoxy-2-chloro-6-fluoro-benzyl ester; (R)-2-ethyl-piperazine-1-carboxylic acid 2-chloro-6-fluoro-4-propoxy-benzyl ester; (R)-2-ethyl-piperazine-1-carboxylic acid 4-allyloxy-2-chloro-6-fluoro-benzyl ester; and (R)-2-ethyl-piperazine-1-carboxylic acid 2-chloro-6-fluoro-4-prop-2-ynylbenzyl ester.

15. A compound of formula I wherein the compound is S-4-[(2-propylamino)carbonyl]oxybenzyl piperazine-1-thiocarboxylate.

16. A compound of formula I wherein the compound is S-4-[(benzylamino)carbonyl]oxybenzyl piperazine-1-thiocarboxylate.

17. A compound of formula I wherein the compound is S-4-[(tert-butylamino)carbonyl]oxybenzyl piperazine-1-thiocarboxylate.

18. A compound of formula I wherein the compound is 2,6-difluoro-4-difluoromethoxybenzyl cis-2,6-dimethylpiperazine-1-carboxylate.

19. A compound of formula I wherein the compound is (R)-4-difluoromethoxybenzyl 2-ethylpiperazine-1-carboxylate.

20. A compound of formula I wherein the compound is (R)-2,6-difluoro-4-propoxybenzyl 2-methylpiperazine-1-carboxylate.

21. A compound of formula I wherein the compound is cis-2,6-dimethyl-piperazine-1-carboxylic acid 4-(3,5-dimethyl-isoxazol-4-ylmethoxy)-2,6-difluoro-benzyl ester.

22. A compound of formula I wherein the compound is 2-fluoro-5-(2-propenyl)oxybenzyl cis-2,6-dimethylpiperazine-1-carboxylate.

23. A compound of formula I wherein the compound is (R)-2-fluoro-5-pentyloxybenzyl 2-methylpiperazine-1-carboxylate.

24. A compound of formula I wherein the compound is 5-(cyclopropylmethyl)oxy-2-fluorobenzyl cis-2,6-dimethylpiperazine-1-carboxylate.

25. A compound of formula I wherein the compound is (R)-2-ethyl-piperazine-1-carboxylic acid 4-cyclopropylmethoxy-2,6-difluoro-benzyl ester.

26. A compound of formula I wherein the compound is (R)-2-ethyl-piperazine-1-carboxylic acid 2,6-difluoro-4-propoxy-benzyl ester.

27. A compound of formula I wherein the compound is (R)-2-ethyl-piperazine-1-carboxylic acid 4-allyloxy-2,6-difluoro-benzyl ester.

28. A compound of formula I wherein the compound is (R)-2-ethyl-piperazine-1-carboxylic acid 2,6-difluoro-4-prop-2-nyloxy-benzyl ester.

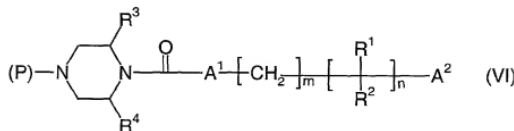
29. A compound of formula I wherein the compound is (R)-2-ethyl-piperazine-1-carboxylic acid 4-cyclopropylmethoxy-2-chloro-6-fluoro-benzyl ester.

30. A compound of formula I wherein the compound is (R)-2-ethyl-piperazine-1-carboxylic acid 2-chloro-6-fluoro-4-propoxy-benzyl ester.

31. A compound of formula I wherein the compound is (R)-2-ethyl-piperazine-1-carboxylic acid 4-allyloxy-2-chloro-6-fluoro-benzyl ester.

32. A compound of formula I wherein the compound is (R)-2-ethyl-piperazine-1-carboxylic acid 2-chloro-6-fluoro-4-prop-2-ynyloxy-benzyl ester.

33. A process for the preparation of a compound comprising deprotecting a compound of formula



wherein R¹ to R⁴, A¹, A², m and n are defined as in claim 1 and (P) is a nitrogen protecting group.

34. A method of treating a disease alleviated by modulation of 5-HT2 receptors comprising administering a therapeutically effective amount of a compound of formula I or a pharmaceutically acceptable salt, solvate or ester thereof to a patient in need of such treatment.

35. A pharmaceutical composition comprising a therapeutically effective amount of compound of formula I or a pharmaceutically acceptable salt, solvate or ester thereof and a therapeutically inert carrier.

36. The pharmaceutical composition of claim 35 further comprising a therapeutically effective amount of a lipase inhibitor.

37. The pharmaceutical composition of claim 36 wherein said lipase inhibitor is orlistat.

38. A method of treating obesity comprising administering a therapeutically effective amount of a compound of formula I or a pharmaceutically acceptable salt, solvate or ester thereof to a patient in need of such treatment.

39. The method of claim 38 further comprising the administration of a therapeutically effective amount of a lipase inhibitor to the patient.

40. The method of treatment of claim 39 wherein said lipase inhibitor is orlistat.

41. A method of treatment of diabetes mellitus, Type I diabetes, Type II diabetes, diabetes, diabetes secondary to pancreatic disease, diabetes related to steroid use, Type III diabetes, hyperglycaemia, diabetic complication and insulin resistance. diabetes comprising administration of a therapeutically effective amount of the compound of formula I or a pharmaceutically effective salt solvate or ester thereof to a patient in need of such treatment.

42. A method of treatment of type II diabetes comprises administering a therapeutically effective amount of a compound of formula I or a pharmaceutically acceptable salt, solvate or ester thereof to a patient in need of such treatment.

43. The method of treatment of claim 42, further comprising administration of a therapeutically effective amount of a lipase inhibitor to the patient.

44. The method of claim 43 wherein said lipase inhibitor is orlistat.
